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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,365	06/05/2001	Daniel J. Woodruff	291958 156US	8844

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PERKINS COIE LLP  
PATENT-SEA  
P.O. BOX 1247  
SEATTLE, WA 98111-1247

EXAMINER

LEADER, WILLIAM T

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/875,365	<b>Applicant(s)</b> WOODRUFF ET AL.	
	<b>Examiner</b> William T. Leader	<b>Art Unit</b> 1742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-15, 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-11; 6-28; 12-19-03</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 4 and 16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Independent claim 1 recites that first virtual electrode unit is replaced with the second virtual electrode unit. Merriam Webster's Collegiate Dictionary defines "replace" as "to take the place of esp. as a substitute or successor". It is not apparent how the first virtual electrode unit can be replaced with a second unit as required by claim 1 without removing it and installing the second unit as recited in claim 4. Claim 16 includes a similar limitation.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. In claim 19, line 15, the expression "the initial electrochemical processing chamber" lacks antecedent basis. Claim 19, lines 3-5 recite that the electrochemical

Art Unit: 1742

processing chamber initially comprises a replaceable first virtual electrode unit.

Perhaps line 15 should refer to an initial configuration of the chamber rather than an initial chamber. A similar limitation appears in the last paragraph of claim 20.

4. The fifth (last) paragraph of claim 19 recites that the virtual electrode unit is moved to a different relative position defined by the second virtual electrode unit. The scope of positions included by this limitation is not clear. The third paragraph of claim 19 recites that the first virtual electrode unit is removed from the reaction vessel. The fourth paragraph recites that the second virtual electrode unit is installed in the reaction vessel. The manner in which the different relative position where the first virtual electrode unit is defined by the second virtual electrode unit is not apparent. This is particularly true since the claim already requires that first virtual electrode unit be removed from the reaction vessel. The most pertinent portions of the specification appear to be paragraphs 0096, 0101 and 0104.

However, these sections of the specification do not aid in interpreting the claim language. The last three paragraphs of claim 20 include similar limitations.

5. The third and fourth paragraphs of claim 19 include the limitation "without modifying the electrodes". The word "electrodes" is plural. However, it appears that only one electrode has been recited (in line 4). This appears to be inconsistent

Art Unit: 1742

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Poris (5,368,711).

8. The Poris patent is directed to a process for the selective electrodeposition of metal onto a workpiece such as a semiconductor wafer. The apparatus used in the process of Poris is shown in figures 9 and 12. The apparatus includes a cell body 10 (processing chamber), an anode electrode 1, and a virtual anode electrode 7 above the electrode and in fluid communication with the electrode as recited in the first paragraph of claim 19. Poris teaches that different virtual anode electrodes can be easily exchanged to optimize the primary current distribution (column 10, lines 49-51). This teaching is considered to meet the limitations of the second, third, and fourth paragraph of claim 19. Poris notes that the exchange may be easily accomplished and does not mention any need to modify anode electrode 1. The fifth paragraph of claim 19 is interpreted to require that the first virtual electrode be at some location outside the reaction vessel. Poris is considered to meet this limitation.

Art Unit: 1742

9. The prior art statements submitted by applicant on 2-11-2002, 6-28-2002 and 12-19-2003 have been reviewed. While the Poris patent is considered to teach the replacement of one virtual anode with anode and anticipate claims 19 and 20 for the reasons given above, the prior art of record is not considered to teach or suggest the combinations of limitations recited in claims 1-18

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WL  
William Leader  
June 23, 2004

ROY KING *R*  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700